



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/902,494 | 07/10/2001 | Peter M. Wild | 3048.1000-002 | 5907 |

21005 7590 10/28/2002

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.
530 VIRGINIA ROAD
P.O. BOX 9133
CONCORD, MA 01742-9133

EXAMINER

NGUYEN, SON T

ART UNIT PAPER NUMBER

3643

DATE MAILED: 10/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/902,494

Applicant(s)

WILD ET AL.

Examiner

Son T. Nguyen

Art Unit

3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

PETER M. POON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

Pmf

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-18,21-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata (JP406169643A) in view of Schoonman (US 3,295,254).

For claims 1 & 2, Shibata discloses a method for injecting a fluid into a woody plant such as a tree, the method comprising the steps of providing a fluid reservoir 20 containing a fluid L, a gas reservoir 2 containing a gas G, a needle H,28 having a proximal end and a distal end, an inner conduit 28, a tip (fig. 2 near ref. H), an outer surface, at least one aperture connecting the inner conduit and the outer surface (fig. 2, near ref. H so that liquid from the needle can flow to the tree), an injector 10,13 connectable to the fluid reservoir 20 and the gas reservoir 2, wherein the injector can direct at least a portion of the fluid L from the fluid reservoir 20 with at least one piston 13 actuated by at least a portion of the gas G from the gas reservoir 2, through the inner conduit and out of the at least one aperture; inserting the needle into the woody plant as shown in fig. 2; injecting, via the injector, at least a portion of the fluid L from the fluid reservoir 20 using at least a portion of the gas G from the gas reservoir 2, through the inner conduit 28 of the needle and out of the at least one aperture (near ref. H) and into the woody plant, thereby injecting the fluid into the woody plant (see abstract and

Art Unit: 3643

figures). However, it is uncertain if the needle's tip of Shibata is sealed and terminating in a point at the distal end. Schoonman teaches an apparatus for injecting liquids into trees in which he employs a needle 11 having a proximal end (fig. 3, end near refs. 21,17) and a distal end (fig. 3, end near ref. 12), an inner conduit 14, a sealed tip 12 terminating in a point at the distal end, an outer surface and at least one aperture 16 connecting the inner conduit and the outer surface and proximate to the point at the distal end. It would have been an obvious substitution of functional equivalent to substitute the needle of Shibata with the needle with the above described features of Schoonman, since it would perform the same function; i.e. to penetrate a tree so as to inject liquid into the tree.

For claim 3, Shibata as modified by Schoonman is silent about the plant being a palm tree. It would have been an obvious matter of choice to one having ordinary skill in the art at the time the invention was made to employ the method of injecting a fluid of Shibata as modified by Schoonman on a palm tree, depending on a user's preference to do so if happens that the palm tree needs to be treated.

For claim 4, Shibata as modified by Schoonman is silent about the method being repeated one or more times on the same woody plant. It would have been obvious to one having ordinary skill in the art at the time the invention was made to repeat the method of Shibata as modified by Schoonman on the same tree, depending on how bad the plant is in need of medicament, nutrients, fertilizer, pesticide, etc.

For claims 5-7, Shibata is silent about the fluid L is a treatment for a disease condition. In addition to the above, Schoonman further discloses the fluid used in his

injection method is to treat the tree for a disease and/or provide the tree with nutrients or water (col. 1, lines 12-14 and col. 4, line 60). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a fluid which will treat a tree for a disease condition, insect infestation, or nutrients as taught by Shoonman in the method of injecting of Shibata in order to treat the tree for disease and to provide the tree with proper nutrients and water.

For claim 8, Shibata as modified by Schoonman (emphasis on Schoonman) further discloses the fluid is a suspension of chemicals in water (col. 3, lines 40-43).

For claim 9, Shibata as modified by Schoonman further discloses the needle is inserted into expansion tissue which is the layer of tissue beneath the bark.

For claim 10, Shibata as modified by Schoonman (emphasis on Schoonman) further discloses the needle includes two apertures 16.

For claim 11, Shibata as modified by Schoonman (emphasis on Schoonman) further disclose the at least one aperture 16 is at a forward angle such as 90° relative to the longitudinal axis of the needle (see fig. 3 of Schoonman).

For claim 12, Shibata as modified by Schoonman (emphasis on Schoonman) further disclose the angle of 90° which is about 50° to about 130° relative to the longitudinal axis of the needle.

For claim 13, Shibata as modified by Schoonman (emphasis on Schoonman) further disclose the angle of 90° which is about 60° to about 120° relative to the longitudinal axis of the needle.

For claim 14, Shibata as modified by Schoonman (emphasis on Schoonman) shows an angle of 90° but not an angle of about 65°. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the apertures of Shibata as modified by Schoonman angled at about 65°, since it has been held that where routine testing and general experimental conditions are present, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

For claim 15, Shibata as modified by Schoonman (emphasis on Schoonman) further disclose at least a portion of the outer surface of the needle between the point 12 and the at least one aperture 16 includes a taper (see fig. 3, the aperture 16 in consideration is the one near refs. 12,14).

For claim 16, Shibata as modified by Schoonman (emphasis on Schoonman) further disclose the needle has a first portion from the proximal end to a shoulder point (fig. 3, shoulder point stops near refs. 16,14,12), wherein the outer surface of the first portion has a first taper (fig. 3, first taper occurs from proximal end where refs. 21,17 are located to the shoulder point), and a second portion from the shoulder point to the distal end (fig. 3, near ref. 12), wherein the second portion has a second taper (from shoulder point to the tip of the needle) which is substantially greater than the first taper.

For claim 17, the second taper of Shibata as modified by Schoonman (emphasis on Schoonman) appears to be in the range of about 10 degrees to about 50 degrees relative to the longitudinal axis of the needle; however, this is not certain. In any event, it would have been obvious to one having ordinary skill in the art at the time the

invention was made to have the taper angle of Shibata as modified by Schoonman about 10° to about 50°, since it has been held that where routine testing and general experimental conditions are present, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

For claim 18, Shibata discloses a method for injecting a liquid into a plant such as a tree comprising the steps of providing the liquid for the plant; providing a compressed gas G for injecting the liquid into the plant; and injecting, by motion of at least one piston 13 actuated by at least a portion of the compressed gas, the liquid through a surface of the plant to inject the liquid into the plant. However, Shibata is silent about the liquid being a medicament. Schoonman teaches a method for injecting a medicament into a plant to treat the plant for disease (col. 1, lines 14 & col. 3, lines 40-42). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a medicament as taught by Schoonman as the preferred liquid in the method of Shibata in order to treat the tree for disease.

For claims 21 & 22, Shibata discloses an apparatus for injecting a fluid into a woody plant such as a tree, the apparatus comprising a fluid reservoir 20 containing a fluid L, a gas reservoir 2 containing a gas G, a needle H, 28 having a proximal end and a distal end, an inner conduit 28, a tip (fig. 2 near ref. H), an outer surface, at least one aperture connecting the inner conduit and the outer surface (fig. 2, near ref. H so that liquid from the needle can flow to the tree), an injector 10, 13 connectable to the fluid reservoir 20 and the gas reservoir 2, wherein the injector can direct at least a portion of the fluid L from the fluid reservoir 20 with at least one piston 13 actuated by at least a

portion of the gas G from the gas reservoir 2, through the inner conduit and out of the at least one aperture to inject the fluid into the woody plant. However, it is uncertain if the needle's tip of Shibata is sealed and terminating in a point at the distal end.

Schoonman teaches an apparatus for injecting liquids into trees in which he employs a needle 11 having a proximal end (fig. 3, end near refs. 21,17) and a distal end (fig. 3, end near ref. 12), an inner conduit 14, a sealed tip 12 terminating in a point at the distal end, an outer surface and at least one aperture 16 connecting the inner conduit and the outer surface and proximate to the point at the distal end. It would have been an obvious substitution of functional equivalent to substitute the needle of Shibata with the needle with the above described features of Schoonman, since it would perform the same function; i.e. to penetrate a tree so as to inject liquid into the tree.

For claim 23, see claim 3 above.

For claim 24, see claim 5 above.

For claim 25, see claim 6 above.

For claim 26, see claim 7 above.

For claim 27, see claim 8 above.

For claim 28, see claim 10 above.

For claim 29, see claim 11 above.

For claim 30, see claim 12 above.

For claim 31, see claim 16 above.

For claim 32, see claim 17 above.

For claim 33, Shibata as modified by Schoonman (emphasis on Schoonman) further discloses the at least one aperture 16 is located between the shoulder point and the proximal end.

3. **Claim 19** is rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata as modified by Schoonman as applied to claim 18 above, and further in view of Hendrixson et al. (US 4,103,456). Shibata as modified by Schoonman is silent about the medicament being selected from a fertilizer, a pesticide, a fungicide, a growth regulator and a hormone. Hendrixson et al. teach a method for treating trees in which they inject medicament such as fertilizer, growth regulator, hormone, etc. into the trees to treat the trees for disease (col. 4, lines 63-65). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a medicament such as fertilizer, growth regulator, hormone as taught by Hendrixson et al. in the method of Shibata as modified by Schoonman in order to treat the tree for disease.

4. **Claim 20** is rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata as modified by Schoonman as applied to claim 18 above, and further in view of Mazur et al. (US 4,908,983). Shibata as modified by Schoonman is silent about the gas being selected from the group consisting of carbon dioxide, air, nitrogen. Mazur et al. teach a tree injector in which they employ carbon dioxide (col. 3, line 20) to provide a pressure source so as to inject fluid into the tree. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ carbon dioxide as taught by Mazur et al. as the preferred gas in the method of Shibata as modified by Schoonman in order to provide a pressure source so as to inject fluid into the tree.

Response to Arguments

5. Applicant's arguments with respect to claims 1-33 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

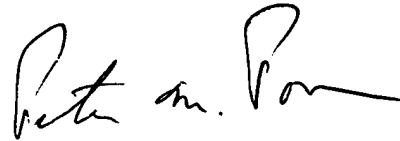
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son T. Nguyen whose telephone number is (703) 305-0765. The examiner can normally be reached on Monday - Friday from 9:00 a.m. to 5:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon, can be reached at (703) 308-2574. Any inquiry of a

Art Unit: 3643

general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Son T. Nguyen
Patent Examiner, GAU 3643
October 21, 2002

A handwritten signature in black ink, appearing to read "Peter M. Poon". The signature is fluid and cursive, with the first name "Peter" and last name "Poon" clearly distinguishable.

PETER M. POON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600